(12) INTERNATIONAL A ZICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



1 BB 11 B 2017 11 1 BB 110 1 BB 111 BB 111 BB 111 BB 111 BB 111 BB 111 BB 1111 BB 1111 BB 1111 BB 1111 BB 1111

(43) International Publication Date 3 June 2004 (03.06.2004)

PCT

(10) International Publication Number WO 2004/046362 A3

(51) International Patent Classification⁷:

C12N 15/82

(21) International Application Number:

PCT/IB2003/006390

(22) International Filing Date:

18 November 2003 (18.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/427,204

18 November 2002 (18.11.2002) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US Filed on

Not furnished (CIP)
Not furnished

(71) Applicant (for all designated States except US): PER-FORMANCE PLANTS, INC. [CA/CA]; Biosciences Complex, c/o Queen's University, Kingston, Ontario K7L 3N6 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HUANG, Yafan [CA/CA]; 935 Milford Drive, Kingston, Ontario K7P 1X8 (CA): WANG, Yang [CA/CA]; 1117 Hudson Drive, Kingston, Ontario K7M 5L4 (CA).

(74) Agents: MORROW, Joy, D. et al.; Smart & Biggar, P.O. Box 2999, Station D, 900- 55 Metcalfe Street, Ottawa, Ontario K1P 5Y6 (CA).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

(88) Date of publication of the international search report: 28 October 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HYDROXYPYRUVATE REDUCTASE PROMOTER ELEMENTS AND METHODS OF USE THEREOF IN PLANTS

(57) Abstract: The invention provides compositions and methods for regulating the expression of nucleotide sequence of interest in a plant. Compositions include a novel nucleotide sequence comprising a promoter for the hydroxypyruvate reductase gene. Methods for expressing a nucleotide sequence of interest in a plant using the promoter sequences disclosed herein is provided. The method comprises stably incorporating into the genome of a plant cell a nucleotide sequence operably linked to the promoter of the present invention and regenerating a stably transformed plant that expresses the nucleotide sequence..



A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12N15/82

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, WPI Data, BIOSIS, SEQUENCE SEARCH, EMBL

	ENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	WO 02/16655 A (SYNGENTA PARTICIPATIONS AG; SCRIPPS RESEARCH INST (US)) 28 February 2002 (2002-02-28) seq.id.no.4755, 100% identical to nt 1-485 of seq.id.no.5 abstract; claim 144 -& DATABASE GENESEQ 'Online! Wo00216655, seq.id.no.4755, 21 January 2003 (2003-01-21) HARPER ET AL: retrieved from EBI, accession no. ABZ16950 Database accession no. ABZ16950 XP002287315 abstract	

Further documents are listed in the continuation of box C.	Y Patent family members are listed in annex.		
Special categories of cited documents:			
 "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the International filing date but later than the priority date claimed 	 *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family 		
Date of the actual completion of the international search	Date of mailing of the international search report		
6 July 2004	26/07/2004		
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer		
(101 10) 040-3010	De Kok, A		



Internation Ilication No
PCT/IB 03/06390

C.(Continue	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	PCT/IB 03/06390
Category °	Citation of document, with indication, where appropriate, of the relevant passages	
J,	more appropriate, or the relevant passages	Relevant to claim No.
A	DATABASE EMBL 'Online! Ebi ; 7 May 2002 (2002-05-07) NGUYEN, M. ET AL.: "A. thaliana hydroxypyruvate reductase (HPR) mRNA" retrieved from EBI Database accession no. AY099552 XP002287316 the whole document	1

INTERNATION SEARCH REPORT

Internation No
PCT/IB 03/06390

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 0216655	Α	28-02-2002	AU CA EP WO US	8681101 A 2420555 A1 1313867 A2 0216655 A2 2002160378 A1	04-03-2002 28-02-2002 28-05-2003 28-02-2002 31-10-2002